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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,722	05/24/2006	Yucheng Li	CN03 0036 US1	6472
65913	7590	03/22/2010	EXAMINER	
NXP, B.V. NXP INTELLECTUAL PROPERTY & LICENSING M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			SARWAR, BABAR	
			ART UNIT	PAPER NUMBER
			2617	
			NOTIFICATION DATE	DELIVERY MODE
			03/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No. 10/580,722	Applicant(s) LI ET AL.	
	Examiner BABAR SARWAR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Appeal Brief

1. In view of the Appeal Brief filed on 10/13/2009, PROSECUTION IS HEREBY REOPENED. New grounds of rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below

/NICK CORSARO/

Supervisory Patent Examiner, Art Unit 2617

Status of Claims

2. **Claims 1-24** are currently pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 7, 10, 13, 16, 19, 21, 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 7, 16, 19 recite the limitations "**the CAI**" in lines 3, 5, 2, and 4. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claims 1, 7, 16, 19 recite the limitations "**the next TTI**" in lines 4, 5, 3, and 4. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claims 1 recites the limitations "**the traffic burst**" in lines 6. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claims 10, 13, 21, 23 recite the limitations "**the ACN**" in lines 3, 5, 2, and 4. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claims 10, 21, recite the limitations "**the traffic burst**" in lines 6, 4. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang et al. (2004/0052236 A1) in view of Applicant own admitted prior (US 2007/0165620 A1) art, hereinafter referenced as Hwang and AAPA.

Consider **claims 1, 7, 10, 13, 16, 19, 21, 23**, Hwang discloses a method for supporting downlink JD (Joint detection) in a TDD CDMA communication network system (**Abstract, Fig. 7A, where Hwang discloses JD in TDD-CDMA**), comprising: estimating whether the CAI (code allocation information) in a downlink timeslot will change in the next TTI (transmission time interval) (**Abstract, Para 0014-0016, where Hwang discloses estimating the channel environment between BS and UE, and recognizing information of channels transferred from the BS, therefore estimating**); inserting the changed CAI as a specific control information into a specified field in the traffic burst in the downlink timeslot corresponding to current TTI if the CAI will change (**Para 0011, where Hwang discloses switching points, therefore inserting**); sending the traffic burst containing the specific control information to each UE (user equipment) in the downlink timeslot via a downlink channel (**Para 0015-0016, where Hwang discloses DL, UL time slot**).

Hwang discloses midamble codes to estimate the channel environment between the base station and user equipment, and to recognize the information of channels transferred from the base station to the user equipment. However, Hwang does not specifically disclose judging. AAPA discloses judging (**Para 007-0010, 0012, where AAPA discloses occurrence of CAI in three situations, therefore judging**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hwang with the teachings of AAPA so as to enhance the use of channel resources as discussed in **Para 0008**.

Consider **claim 2**, the combination teaches everything claimed as implemented above (see claim 1). In addition, AAPA discloses when establishing connection with a UE, the network system sends the initial CAI to the UE (**Para 00010, where AAPA discloses broadcast of CAI**).

Consider **claim 3**, the combination teaches everything claimed as implemented above (see claim 2). In addition, AAPA discloses wherein judging further includes: judging that the CAI changes if at least one active UE leaves the downlink timeslot; reclaiming the spreading code resource released by the UE; wherein the changed CAI in step of inserting is the CAI after the spreading code resource is reclaimed (**Para 0012, where AAPA discloses occurrence of CAI changes and allocation of spreading codes**).

Consider **claim 4**, the combination teaches everything claimed as implemented above (see claim 2). In addition, AAPA discloses wherein judging further includes: judging that the CA1 changes it at least one UE joins the downlink timeslot;

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allocating spreading code resource to the UE; wherein the changed CAI in step of inserting is the CAI after the spreading code resource is allocated (**Para 0012, where AAPA discloses occurrence of CAI changes, and allocation of spreading codes**).

Consider **claim 5**, the combination teaches everything claimed as implemented above (see claim 2). In addition, AAPA discloses wherein judging further includes: judging that the CAI changes if the spreading code resource in the downlink timeslot is reallocated to realize optimized configuration of the resource in the downlink timeslot; wherein the changed CAI in step of inserting is the CA1 after the spreading code resource is reallocated (**Para 0012, where AAPA discloses occurrence of CAI changes, and allocation of spreading codes**).

Consider **claim 6**, the combination teaches everything claimed as implemented above (see claim 1). In addition, the combination teaches wherein the specific control information allows each UE in the downlink timeslot to perform one of the two JD methods of ZF-BLE and MMSE-BLE.

Claim 8, as analyzed with respect to limitations as discussed in claim 2.

Claim 9, as analyzed with respect to limitations as discussed in claim 6.

Claim 11, as analyzed with respect to limitations as discussed in claim 2.

Claim 12, as analyzed with respect to limitations as discussed in claim 6.

Claim 14, as analyzed with respect to limitations as discussed in claim 2.

Claim 15, as analyzed with respect to limitations as discussed in claim 6.

Claim 17, as analyzed with respect to limitations as discussed in claim 2.

Claim 18, as analyzed with respect to limitations as discussed in claim 3.

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Claim 20, as analyzed with respect to limitations as discussed in claim 2.

Claim 22, as analyzed with respect to limitations as discussed in claim 2.

Claim 23, as analyzed with respect to limitations as discussed in claim 2.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BABAR SARWAR whose telephone number is (571)270-5584. The examiner can normally be reached on MONDAY TO FRIDAY 09:00 A.M -05:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NICK CORSARO can be reached on (571)272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BABAR SARWAR/

/BS/

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Examiner, Art Unit 2617

/NICK CORSARO/

Supervisory Patent Examiner, Art Unit 2617